

Notes on Odonata of Surinam

V.¹ A New Species of *Misagria* with a Redescription of the Genus (Odonata: Libellulidae)

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The genus *Misagria* (Kirby 1889) has for a long time been represented by one species only, the genotype *M. parana* (Kirby 1889). A few years ago (1943), Kimmins² described a second species of this genus as *M. bimacula* from British Guiana, of which he says: "This species, which was placed, unnamed, under *Misagria* by McLachlan in his collection, differs in several respects from the genotype (*M. parana*), and were more material available, it might be necessary to erect a new genus for it."

During my explorations in Surinam, I twice collected a species of *Misagria* in the hilly country near the Brownsberg, about 100 km. south of Paramaribo, which proved to be not the common *M. parana* and which was set aside as probably new. After studying the publication of Kimmins, I was much surprised to find in it not my new species from the Brownsberg, but still another one which, however, shows some striking peculiarities in common with the Surinam species. The development of the anal loop in the hindwing and the structure of the male genitalia in both these species, as contrasted with the genotype *M. parana*, is especially remarkable. On the other hand, there are many points possessed in common with the genotype, so that it seems to me not necessary to create a new genus for the two discovered species in the Guianas although they do belong to a distinct

¹ Part I. *Rimanella arcana* Needham and its nymph (Odon. Zyg.). Revista d. Entomologia, 11 (1-2): 173-179; 8 figs. 1940. Part II. Six mostly new Zygopterous nymphs from the coastland waters. Ann. Ent. Soc. Amer., 34: 719-734; 6 figs. 1941. Part III. The genus *Coryphaeschna*, with descriptions of a new species and of the nymphs of *C. zirens*. Ent. News, 54: 61-72. 1943. Part IV. Nine new or little known Zygopterous nymphs from the inland waters. Ann. Ent. Soc. Amer., 36: 165-184; 7 figs. 1943.

² Kimmins, D. E. 1943. A new South American Dragonfly (*Misagria bimacula* sp. n.). Ann. & Mag. Nat. Hist., Ser. II, Vol. X, pp. 156-159, 6 textfigs.

group. In other primitive Libelluline genera as *Cannaphila* and *Dasythemis* which are closely related to *Misagria*, we encounter also differences within the species, especially with regard to the length of the anal loop. For this reason I have extended the generic characters of *Misagria* as given below.

***Misagria calverti* nov. spec.**

Male.—Face yellow, labium with a median black stripe of moderate width. Outer margin of labrum finely bordered with black. Upper part of frons brown with metallic blue shining; ocellar tubercle light brown, antennae black. Occipital triangle and rear of head brown, with some yellow markings below.

Prothorax brown, front and hind lobe and the dorsal median yellow, hind lobe more or less rectangular, without hairfringe on top. Pterothorax chocolate brown, crossed by yellow stripes as follows: a broad dorso-median stripe, which is continued between the wingbases in three spots. A second stripe along the upper side of the humeral suture, running downward over the mesinfraepisternum to the middle coxa. The first band covers the lower mesepimeron, connected on top with a yellow spot situated between the humeral suture and this stripe. Band 4 runs along the second suture, finely connected with band 3 in its upper part and crossing the suture line below the stigma, where it is widely connected with band 5 in the upper metepimeron. Stripe 5 in turn is connected in its upper part with band 6, widely extending the lower part of metepimeron.

The bands 2–6 replace largely the brown on the sides of pterothorax, with the result, that only three brown bands occur, viz., a large one under and along the humeral suture, a smaller second one over the stigma and a small third band in the middle or metepimeron. Poststernum yellow for the most part, the sides darkened.

Legs dark brown with lighter parts on the inner side of first femora and at the apical end and first tarsus joint of hind legs. Claws with a large additional tooth at $2/3$ length. Abdomen dark brown, marked on segment 1–5 and on segment 7 with dorso-median and lateral yellow spots, reaching in segments 4, 5

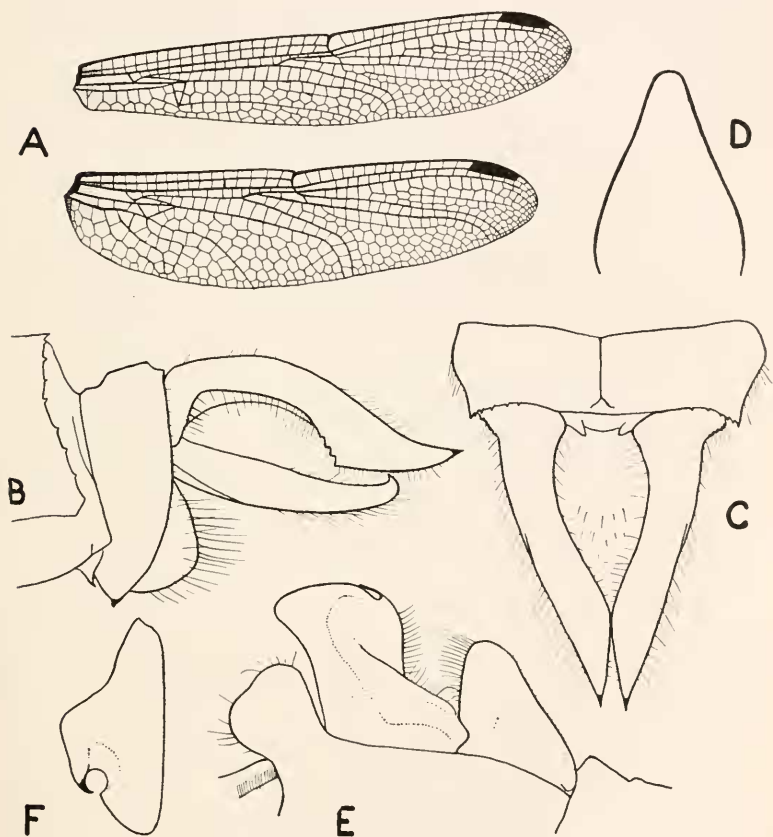
and 7 from base to half the segment length, in the basal segments covering a larger part. Segment 6 with a small lateral spot on each side only; segments 8, 9 and 10 black. Appendages red-brown; appendages superiores strongly curved in the basal half, the tips seen from the dorsal side convergent and pointed; on the under side a triangular projection at $\frac{3}{5}$ the length, basal side of this projection armed with a few (4) small teeth. Inferior appendage triangular, reaching to half the distance of the projection and the end of the appendages superiores; apex rounded with two small upturned points.

Wings hyaline, with a small golden wingspot at base, stigmata brown. Antenodal crossveins $\frac{19.18}{16.16}$, last antenodal complete, postnodals $\frac{14.14}{14.14}$. Arculus at third antenodal, triangle with one crossvein, inferior triangle in front wings two- and three-celled. One bridge crossvein in front and hind wing and two cubito-anal crossveins in hind wing. Anal loop well developed and with a definite outer angle, projecting about two cells beyond the apex of the triangle, with a forked cell at the outer angle. Discoidal field in front wing starting with a row of two cells against the triangle, in hind wing with one row of three cells, followed by a row of two cells, two cells long. Membrane small, black. Golden wingspots diffusely fading distally, in front wing reaching to between first and second antenodal and cubito-anal crossvein, or one cell more; in hind wing to near the second antenodal and the second cubito-anal crossvein, ending at the margin 5 cells from the anal wing base.

Genitalia on second abdominal segment: anterior lamina large, triangular from the side, its anterior surface with a median furrow, apical margin distinctly excised. Hamule larger than lamina and hind lobe, outer lobe blunt quadrate, inner lobe in the form of a small hook directed caudad, separated from the outer lobe by a small excision. Hind lobe as high as lamina, broad rounded distally.

Total length 37 mm., abdomen 25 mm., hind wing 31 mm., front wing 33 mm., pterostigma 3-3.25 mm.

Female.—Similar to male, but the blue on frons less brilliant shining, the dorsal and lateral yellow spots on abdominal segments 3–5 and on segment 7 diffusely confluent. Dilated parts on segment 8 large and black. Wings hyaline, golden basal spots somewhat smaller than in male. Pterostigma dark red-brown.



Misagria calverti n. sp. holotype male

A, right fore and hind wing; B, abdominal appendages, left profile view; C, *idem*, dorsal view; D, appendix inferior, ventral view; E, genitalia of second abd. segm., left profile view; F, right hamulus, ventral view.

In front wing arculus distad from third antenodal, in hind wing at or just behind this crossvein; in hind wing three cubito-anal crossveins, antenodals $\frac{21.20}{16.17}$, postnodals $\frac{15.16}{13.12}$. In front wing discoidal field beginning from triangle two times with 3 cells wide, followed 2-3 cells long with a row of two cells wide; in hind wing discoidal field after triangle one time 3 cells followed 2-3 times by a row of two cells wide. Female otherwise as in male.

Total length 42 mm., abdomen 30 mm., hind wing 35 mm., front wing 37 mm., pterostigma 4 mm.

In spite of the difference in size between the male and the female, it seems to me that both the specimens belong to the same species.

SURINAM: Brownsberg, along bush path, settling on dry twigs, Sept. 14, 1938, one male; Sept. 19, 1938, one female (Geijskes leg.). *Holotype* male and *allotype* female in the author's collection.

I take great pleasure in naming this species after the nestor of the neotropical Odonata, Dr. Philip P. Calvert, on the occasion of the celebration of his 80th birthday, in appreciation of his help and encouragement in my study of the Surinam Odonata.

Generic characters of **Misagria**

Dark brown chocolate coloured species of moderate size, marked with yellow or yellow-green stripes and spots, the upper part of frons metallic violet shining and the hyaline wings with golden basal spots.

Eyes connected to one another over a short distance. Vertex with two small points, frons rounded, the median furrow distinct. Lobus of prothorax small rectangular with rounded corners, lying flat, without hairfringe. Pterothorax well developed, chocolate dark brown with yellow or yellow-green markings. Legs long, hind femur with several short spines, claws with an additional tooth at about $\frac{2}{3}$ of the claw length. Wings long and slender, hind wing not much broader than front wing, pterostigma large, dark brown. Triangle in front and in hind wing

with one crossvein. Cu_1 in hind wing arising at the anal angle of triangle. Anal loop small and then reaching to the level of the distal end of triangle, or long foot-shaped and then projecting about two cells beyond the apex of triangle. One or two bridge crossveins, placed in proximal part of space and with two or three cubito-anal crossveins in hind wing. Discoidal field in front wing beginning at the triangle with two cells, sometimes (in ♀) twice with three cells.

Male abdomen slender, the first two segments swollen, segments 7–10 moderately widened and flattened; female with segments 3–7 wider, segment 8 with lateral expansions. Male genitalia: anterior lamina with the apical margin pointed forward, or in the median with a furrow and the apical margin excised; hamule large, outer lobe triangular or quadrate, inner lobe in the form of a small hook. Female genitalia: vulvar plate reduced, sides of segment 8 with lateral expansions.

Male appendages superiores with swollen basal part, dentated ventral surface with a triangular projection in the middle or at $2/3$ the total length and with the apices pointed and curved upward or directed caudad. Appendage inferior broad triangular and divided at top, or smaller pointed with two upturned points at the apex.

Distribution: Guianas, Amazon, Ecuador.

Nymphs, unknown.³

Key to the species of Misagria

1. Anal loop of hind wing short, reaching to the level of the distal end of triangle, containing 8–10 cells. Sides of pterothorax marked with five large yellow stripes, the last ones partly confluent. Male genitalia: apical margin of anterior lamina bent forward; hamule widely excavated so that outer and inner lobes are widely separated, outer lobe triangular. Apex of inferior appendage broad and divided in two dents, which are not upturned.....

Guianas, Amazon, Ecuador. *M. parana* Kirby

Anal loop of hindwing long, footshaped, with a definite outer outer angle, projecting about two cells beyond the apex of

³ I have reared one female nymph of *M. parana*, which is awaiting description.

triangle, containing 14-16 cells. Male genitalia: anterior lamina in the median with a furrow and the apical margin excised; hamule large, outer lobe quadrate, inner lobe in the form of a small hook, separated from the outer lobe by a small excision. Inferior appendage triangular, pointed to the end, apex with a small excision between two small upturned points. 2

2. Sides of pterothorax marked with five large yellow stripes, the last ones partly confluent. Male superior appendages curved in the basal part, the triangular projection on the lower surface after the middle; inferior appendage about $3/4$ long as the superiors. Male genital hind lobe on top broadly rounded. Surinam. *M. calverti* nov. spec.

Sides of pterothorax marked with yellow spots. Male superior appendages long, slender, hind points long and curved upward to subacute apices; the triangular projection on the lower surface before the middle; inferior appendage about half as long as superiors. Male genital hind lobe small lanceolate. British Guiana. *M. bimacula* Kimmins

The Entomological Society of Canada

THE ENTOMOLOGICAL SOCIETY OF CANADA is a new national society that will serve as a link between the various regional societies. The decision to form such a society was reached at the 87th annual meeting of the Entomological Society of Ontario on November 1-3. In addition to the Ontario society there are included the Acadian, the Manitoba, the British Columbia and the proposed Quebec society. The CANADIAN ENTOMOLOGIST will be published jointly by the Ontario and the regional societies and Dr. W. R. Thompson will continue as editor. The president of the new society is W. R. Ross of the Division of Entomology, Ottawa. The other officers are: A. W. Baker, R. H. Wigmore and A. B. Baird. There is a group of seven Directors that includes the presidents of the regional societies.